

REMARKS

Claims 1, 3-13 and 15-24 are pending in the application. By this Amendment, Claim 15 is amended. Favorable reconsideration is respectfully requested in light of the following Remarks.

The Office action rejects Claims 1, 3-13 and 15-24 under 35 U.S.C. 103(a) over Suzuki (U.S. Patent No. 5,221,467, hereinafter “Suzuki”) and Corcelle (U.S. Patent No. 5,071,567), and alternatively under 35 U.S.C. 103(a) over Suzuki and Corcelle and Hosaka (U.S. Patent No. 6,533,927). The rejections are respectfully traversed.

Independent Claims 1 and 13 specify, *inter alia*, a flushing and filtering system for an electroerosion machine comprising a first fluid return path comprising a high-pressure return path for introducing finely-filtered machining fluid through an electrode included in the electroerosion machine. Support for this feature can be found in at least Paragraph [0011] of the specification and Figures 1 and 2 of the drawings.

By contrast, Suzuki discloses an EDM machine having a wire electrode 1 with a pair of nozzles 11, 12 at each thereof. *See Fig. 7(a)*. The nozzles provide machining solution into the inter-electrode gap between the electrode and the workpiece. *See col. 1, line 62-col. 2, line 18*.

Similarly, Corcelle discloses an EDM machine having a wire electrode 3 in which fluid is provided to the wire heads 4, 5 through nozzles 28, 29. *See Fig. 1; col. 2, lines 23-33*. It appears that Corcelle is silent as to the specific location where the dielectric fluid is provided to the wire electrode 3.

Likewise, Hosaka discloses an EDM machine having a wire electrode WE and a guide assembly 13 with an upper nozzle UN for providing fluid towards the machining gap. *See Figs. 1-3, col. 5, lines 51-56*.

Thus, the combination of Suzuki, Corcelle and Hosaka does not disclose, teach or suggest all the claim limitations, as recited in Claims 1 and 13, and the Office action fails to establish a *prima facie* case of obviousness. *See MPEP §2143*.

For at least this reason, independent Claims 1 and 13 are allowable over the applied art. Claims 3-12, which depend from Claim 1, and Claims 15-24, which depend

from Claim 13, are likewise allowable over the applied art. Withdrawal of the rejection is respectfully requested.

Further, there are significant system and operational differences between the electroerosion apparatus and process of the claimed invention and the prior art EDM apparatus and process. In the electroerosion apparatus and process, the electrode spins and feeds simultaneously, while the wire in the EDM process only travels linearly. Because of this difference, the electroerosion apparatus and process uses internal flushing through the front surface of the electrode to wrap the fluid around the machining zone, while the EDM process uses external flushing in the same direction of wire travel to remove chips outside the machining zone.

For at least this reason, a person of ordinary skill in the art having common sense at the time of the invention would not have reasonably considered passing filtered fluid through the electrode, as recited in the claimed invention.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of the application is earnestly solicited.

Should Examiner Popovics believe anything further would be desirable in order to place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

It is believed that any additional fees due with respect to this paper have already been identified. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 07-0868 in the name of General Electric Company.

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Respectfully submitted,

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